



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,848	11/26/2003	Gerhard Karl Strauch	03345-P0044A	8163
24126	7590	12/05/2005	EXAMINER	
ST. ONGE STEWARD JOHNSTON & REENS, LLC 986 BEDFORD STREET STAMFORD, CT 06905-5619			FIORITO, JAMES	
			ART UNIT	PAPER NUMBER
			1763	
DATE MAILED: 12/05/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/722,848	Applicant(s) STRAUCH, GERHARD KARL	
	Examiner James A. Fiorito	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>21 Apr 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1-13 are objected to because of the following informalities:

With respect to Claim 1: The claim states in line 4 "substrate", which should read -- substrate holder -- (see line 5). Henceforth, claim 1 will be interpreted as meaning the gas bearing and the rotary drive being formed by means of gas flowing into the separating gap between support body and substrate holder.

With respect to Claim 2-13: The phrase "or in particular according thereto" is used in each of the Claims and has no apparent meaning.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the gas bearing and the rotary drive" in Lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 6, the phrase "in particular" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed

invention. See MPEP § 2173.05(d). Claim 6 is interpreted as including grooves that are not necessarily arcuate.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 3 the phrase "inside them" is unclear as to what is actually being claimed. Claim 7 is interpreted as meaning that the arcuate grooves with gas streams flowing in opposite directions alternate.

Regarding Claim 9, the phrase "can be" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding Claim 13, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Further, Claim 13 uses an improper dependency upon Claim 12; it does not further limit the parent claim.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, and 8-13 are rejected under 35 U.S.C. 102(e) as being anticipated by White (WO 01/99257).

With respect to Claim 1: White discloses an arrangement comprising a support body (Fig. 3 Item 210) and a substrate holder (Fig. 3 Items 119, 115 and 111A), a gas bearing and a rotary drive being formed by means of gas flowing into a separating gap between the support body and substrate holder from nozzles (Fig. 4 Items 202 and 206); the support body and the substrate holder are formed as rings (Fig. 3 Items 119, 115, 113A and 210).

With respect to Claim 2: White discloses that the rings rest on top of one another in a self-centering fashion (Fig. 3 Items 119, 115, 113A and 210).

With respect Claim 3: White discloses that one of the rings includes a ring bead which projects into a ring recess in the other ring (Fig. 3 Items 113A and 210).

With respect to Claim 4: White discloses that the substrate is supported on the substrate holder ring, which is driven in rotation only by means of its edge (Fig. 3 Items 117 and 119).

With respect to Claim 5: White discloses that the substrate rests on the substrate holder ring with minimal contact, on the tips of needle-like protuberances (Fig. 3 Items 117 and 119).

With respect to Claim 6: White discloses that the nozzles open out into grooves (Fig. 4 Item 206).

With respect to Claim 8: White discloses oppositely directed driving gas streams for rotationally bearing and rotationally driving the rotating ring (Fig. 4 Items 202, and 206).

With respect to Claim 10: White discloses that the support body and/or the substrate holder consist of quartz or ceramic material (Page 6 Lines 12-14).

With respect to Claim 11: White discloses that the rotationally driven ring has a low heat absorption (Page 6 Lines 12-14).

With respect to Claim 12: White discloses that the arrangement is part of a device for the heat treatment of semiconductor wafers (Page 6 Lines 5-7).

With respect to Claim 13: White discloses a device having a support body (Fig. 3 Item 210) and a substrate holder (Fig. 3 Items 119, 115 and 113A) which is supported in a manner that it can be driven in rotation and on which a flat object (Fig. 3 Item 117) can be placed, it being possible to produce a gas cushion beneath the substrate holder by means of gas which emerges from nozzles which open out into a separating gap (Fig. 3

Art Unit: 1763

Item 111A) between the support body (Fig. 3 Item 210) and the holding body (Fig. 3 Items 119, 115 and 113A), on which gas cushion the substrate holder (Fig. 3 Item 111A) rests in such a manner that it is driven in rotation by directed gas streams, the support body (Fig. 3 Item 210) and the substrate holder are formed as rings (Fig. 3 Items 119, 115, 113A and 210).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over White (WO 01/99257) in view of Frijlink (US 4,860,687).

With respect to Claim 7: White discloses an arrangement according to claim 1 (see above) in that the gas streams flowing in opposite directions alternate (Fig. 4 Items 202 and 206).

White does not expressly state that the arrangement that the gas streams are arcuate grooves.

Frijlink discloses an arrangement in which the gas streams are arcuate grooves (Fig. 5b Items 51a-51c). White and Frijlink and analogous art because they are from the same field of endeavor, namely gas driven substrate holder arrangements.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to form White's grooves as arcuate grooves in view of the teaching of Frijlink. The suggestion or motivation for doing so would have been to provide a force more closely aligned with the path of rotation of the substrate holder to more efficiently transfer the kinetic energy of the gas into kinetic energy of the substrate holder, and thus more efficiently rotate the substrate holder. Therefore, it would have been obvious to make the grooves of White arcuate as taught by Frijlink.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over White (WO 01/99257) in view of Achner (US 6,005,226).

With respect to Claim 9: White discloses an arrangement according to Claim 1 as stated above.

White does not expressly state the arrangement can be radiation-heated from below through the rings.

Aschner discloses an arrangement in which the substrate is radiation-heated from above and below through the rings (Fig. 1 Item 140) White and Aschner and analogous art because they are from the same field of endeavor, namely substrate heat treatment arrangements.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to form White's arrangement including being radiation-heated from below through the rings in view of the teaching of Aschner. The suggestion or motivation for doing so would have been to heat the lower surface of the substrate uniformly, and thus more efficiently heating the substrate as taught by Aschner. Therefore, it would have

Art Unit: 1763

been obvious to combine White with Aschner for the benefit of an arrangement in which the substrate is radiation-heated from below through the rings.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Paisley (US 6,797,069) teaches a gas driven planetary rotation apparatus. Aschner (US 6,449,428) teaches a gas driven rotating susceptor for rapid thermal processing system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fiorito whose telephone number is (571)272-7426. The examiner can normally be reached on Standard.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1763

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JF
James Fiorito
Patent Examiner
AU 1763

pl
Parviz Hassanzadeh
Supervisory Patent Examiner
AU 1763